that is an aqueous solution as the $Zn^{2+}$ cations and bis(glycerol)borate anions $[B(C_3H_6O_3)_2]^-$ .

The simultaneous presence of these ions, in our opinion, provides the increased antimicrobial activity of Si-Zn-B–gel in comparison with silicon–boron- [1, 2] and silicon–zinc-glycerol [1,3] hydrogels. Thus, Si-Zn-B–gel can be an efficient and safer alternative to conventional topical antimicrobial agents for treatment of diseases of skin and mucous membrane.

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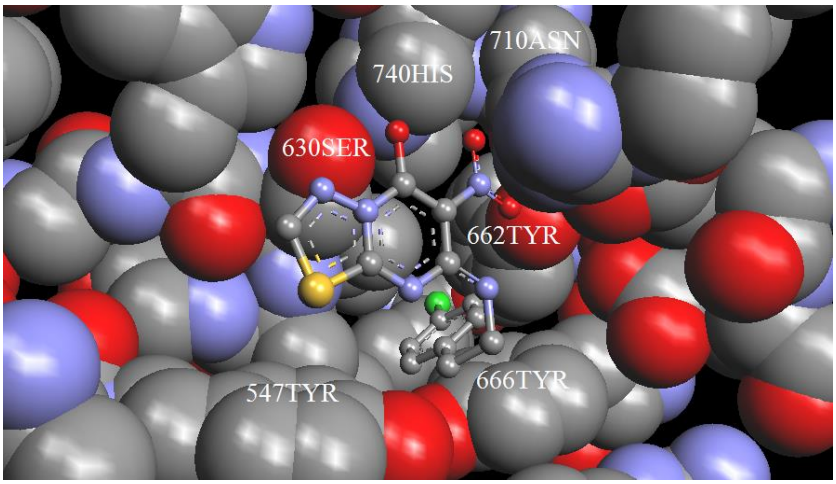
## NEW ANTIGLYCATING AGENTS FOR DIABETES THERAPY*

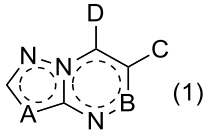

**Keywords**: azolopyrimidines, azolotriazines, antiglycation, antidiabetic, dipeptidyl peptidase-4.


In 2015, there were an estimated 415 million people diagnosed with DM in the world. DM disability and mortality are directly associated with late vascular

complications (cardiovascular disease, retinopathy, renal failure, encephalopathy, impaired peripheral blood circulation, and others). Accumulation of advanced glycation end products (AGEs) in tissues is considered as a main driver of these complications. Non-enzymatic glycation of proteins (Maillard reaction) is the way of AGEs formation.




We have proposed a synthetic scheme towards promising class of azoloazine heterocycles (1) and proved antidiabetic potential of these compounds by computational methods and experiments *in vitro*.




(1)

AGEs formation inhibition,
$IC_{50}$ in the range of
48.13…690.75*$10^{-6}$ mol

It was shown that azoloazines (1) demonstrated higher antiglycation activity than reference compound, aminoguanidine, and have some potential as dipeptidylpeptidase-4 inhibitors. By given results this class of heterocycles can be considered as candidate for extended studies to develop drugs against complications of T2DM [1-4].

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